



Mathematics and Response to Intervention

Greg Roberts
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RTI and Mathematics

- Outline
 - Research
 - Core Instruction
 - Professional Development
 - Assessment & Intervention
- Where we are now & what we still need

Research

- Where we are
 - COI-Math resources online
 - Studies investigating
 - Characteristics of Students with Math Disabilities (MD)
 - Screening and progress monitoring assessments
 - Arithmetic instruction for students with MD
 - Coming soon
 - National Mathematics Panel Synthesis
- What we need
 - Research-to-practice information and recommendations
 - Experimental intervention studies

Core Instruction

- Where we are
 - *Principles and Standards for School Mathematics*
 - National Science Foundation recommendations
 - Few basal programs (research-based?)
 - Teacher created lessons
- What we still need
 - Better understanding of
 - Predictors of early mathematics performance
 - Normal mathematics learning/development
 - Systematic, coherent research-based instruction

(Bryant & Bryant Webinar, 2007)

Professional Development

- Where we are:
 - Existing PD frameworks
 - District- and State-level models and resources
 - Reading specific models and resources
 - Coming soon:
 - Col Guide for choosing professional development
- What we still need:
 - Evidence of what works
 - Implementation of mathematics-specific PD

Assessment and Intervention

- Where we are
 - Limited availability of technically adequate measures for identification and to monitor response to intervention
 - Limited evidenced-based interventions demonstrating efficacy for improving mathematics performance in early mathematics skills and concepts

(Bryant & Bryant Webinar, 2007)

Assessment and Intervention

- What we still need
 - Technically adequate measures for early mathematics number, operation, and quantitative reasoning skills and concepts
 - To develop, refine, and evaluate interventions to teach students who have been identified as struggling or at risk for MD

(Chard, Clarke, Baker, Otterstedt, Braun, & Katz, 2005)

Summary

- We're heading in the right direction
 - Ongoing studies
 - 3-Tier Model in Mathematics (SERP-Math)
 - Case-based studies
 - Implementation of mathematics instruction within an RTI framework

Summary

- We need more
 - Syntheses of existing research
 - Practical implications of and recommendations from existing research
 - Core instruction
 - Interventions
 - Assessments
 - Experimental studies of learning, development, instruction, assessment and intervention

References

- Chard, D., Clarke, B., Baker, B., Otterstedt, J., Braun, D., & Katz, R. (2005). Using measures of number sense to screen for difficulties in mathematics: Preliminary findings. *Assessment Issues in Special Education*.
- Bryant, D. P., & Bryant, B. R. (2007, January). *Early mathematics identification and intervention: Working with students at-risk for Mathematics Difficulties*. Webinar presented at the Access Center Webinar Series, www.k8accesscenter.org/documents/SERP-Math.DCAIRppt.ppt

Resources

- Center on Instruction Website
 - www.centeroninstruction.org/

Dr. Sharon R Vaughn

srvaughn@austin.utexas.edu

Dr. Greg J Roberts

gregroberts@austin.utexas.edu

Vaughn Gross Center for Reading and Language Arts

The University of Texas at Austin

1 University Station, Stop D5900

Austin, TX 78712